



*Plasma polymerization technique originally developed by NASA to coat infrared lenses is being inspected by a company scientist in a potentially significant "knowledge spinoff." The company expects to utilize the technique for coating plastic lenses of film projectors and other optical equipment.*

### **Coating plastic lenses**

Often, NASA scientists cooperate directly with industrial researchers. Bell & Howell Co., at its own expense, arranged to have one of its technologists spend several months working with an Ames Research Center scientist to learn the NASA technique of plasma polymerization.

Plastic lenses can be injection molded at a tenth the cost of making glass lenses. Plastic can be easily formed into aspherical surfaces. Compound lenses can be made from plastics of different refractive indexes. Plastic lenses are lighter than glass and can't shatter.

The bad news is that they scratch easily. The scratches scatter the light, thus reducing light transmission.

NASA-Ames had developed the plasma-polymerization technique for coating infrared lenses made of salt. Salt crystals are used because they are transparent to infrared light. But, since just a slight amount of moisture fogs the salt surface, the plastic coating process was developed to increase the salt lens's resistance to moisture, at only a few cents per coating.